

In the Claims

Please add new claims as follows:

25. A portable data storing device comprising:
a housing defined by first and second housing portions each including planar
surfaces;
an integrated circuit including a random access memory configured to store the
data, the integrated circuit being supported from the first housing portion;
a thin film battery in the housing; and
a conductor supported by and movable with the second housing portion, the
conductor coupling the battery to the integrated circuit so that the integrated circuit is
powered by the battery when the first and second portions are mated and thereby resulting
in the memory being powered by the battery and so that the integrated circuit is not
powered by the battery when the first and second portions are not mated.

26. A passive radio frequency identification device comprising:
- a first flexible film having a peripheral portion;
 - a second flexible film having a peripheral portion, the peripheral portion of the second flexible film laminated directly to the peripheral portion of the first flexible film to form an approximately hermetically sealed flexible package;
 - a first dipole antenna disposed directly on the first film between the first and second films; and
 - a single integrated circuit disposed between the first and second films and having substantially all circuitry formed on a surface of the integrated circuit facing the first film, the integrated circuit being coupled to the first dipole antenna using a conductive epoxy and including memory to store an identification number, a receiver coupled to the first dipole antenna to receive and decode data from a spread spectrum signal in the range of approximately 200MHz to 10GHz, control logic to perform a comparison between the received data and at least a portion of the identification number, and a transmitter coupled to the first dipole antenna to transmit a response based on the comparison.
27. The radio frequency identification device of claim 26 further comprising an adhesive backing to affix the package to a surface.

28. The radio frequency identification device of claim 26, further comprising a second dipole antenna coupled to the integrated circuit and disposed between the first and second films, wherein the first and second dipole antennas are approximately perpendicular to each other in a generally X-shaped configuration.

29. The radio frequency identification device of claim 26, wherein the first dipole antenna comprises a printed conductive ink or epoxy.

30. The radio frequency identification device of claim 26, wherein only two terminals connect off-chip components to the integrated circuit.

31. The radio frequency identification device of claim 26, further comprising a printed label adhered to the first flexible film.

32. The radio frequency identification device of claim 26, wherein the package is bar coded.

33. An apparatus comprising:
a backing to which a plurality of radio frequency identification devices are removably
attached by an adhesive, each of the radio frequency identification devices comprising:
a flexible package;
a first antenna enclosed in the package; and
an integrated circuit enclosed in the package and coupled to the first antenna.

34. The apparatus of claim 33, wherein the first antenna is a type of dipole
antenna and the receiver is to receive and decode a spread spectrum signal in the range of
200MHz to 10GHz.

35. The apparatus of claim 34, wherein each of the radio frequency identification
devices further comprises a second dipole antenna approximately perpendicular to the first
antenna.

36. The apparatus of claim 33, wherein the first antenna is a type of loop
antenna.

37. The apparatus of claim 33, wherein the first antenna comprises a printed
conductive ink or epoxy.

38. The apparatus of claim 33, wherein the integrated circuit is coupled to the first antenna using a conductive epoxy.

39. The apparatus of claim 33, wherein only two terminals connect off-chip components to the integrated circuit.

40. The apparatus of claim 33, wherein the backing is in a roll, reel, tape, fan fold, or sheet format for controlled dispensing of the plurality of radio frequency identification devices.

41. The apparatus of claim 40, further comprising a dispenser to mechanically dispense the plurality of radio frequency identification devices through an opening.

42. The apparatus of claim 41, further comprising an RF shield to substantially prevent the plurality of radio frequency identification devices from receiving a signal.

43. The apparatus of claim 33, wherein the package includes a printable surface.

44. The apparatus of claim 43, wherein the printable surface is bar coded.

45. A method of forming a radio frequency identification device comprising:
forming a plurality of antennas on a first flexible film;
coupling each of a plurality of integrated circuits to each of the plurality of antennas;
laminating a second flexible film directly to the first flexible film, sealing each of the
plurality of antennas and each of the plurality of integrated circuits between the first and
second flexible films to form a web of radio frequency identification devices;
testing each of the radio frequency identification devices within the web of radio
frequency identification devices in an individually shielded cavity formed by placing
grounded plates on both sides of the web; and
separating each of the radio frequency identification devices of the web of radio
frequency identification devices from each other subsequent to the testing.

46. The method of claim 45, further comprising removably attaching each of the
radio frequency identification devices to a backing using an adhesive.

47. The method of claim 46, wherein the backing is in a roll, reel, tape, fan fold,
or sheet format for controlled dispensing of the plurality of radio frequency identification
devices.

48. The method of claim 47, further comprising radio frequency shielding the
radio frequency identification devices.

49. The method of claim 45, wherein forming the plurality of antennas includes screen printing the plurality of antennas.

50. The method of claim 45, wherein coupling each of a plurality of integrated circuits to each of the plurality of antennas includes using a conductive epoxy.

51. The method of claim 45, further comprising applying an adhesive material to the first flexible film on a side opposite a side facing the second flexible film.

52. The method of claim 52, further comprising forming a printable label surface on the second flexible film on a side opposite a side facing the first flexible film.

53. The method of claim 45, further comprising forming a printable label surface on the second flexible film on a side opposite a side facing the first flexible film.

54. A method comprising:
loading a plurality of flexible radio frequency identification devices into a dispenser,
the radio frequency identification devices removably attached to a backing; and
dispensing a flexible radio frequency identification device of the plurality of flexible
radio frequency identification devices through an opening of the dispenser.

55. The method of claim 54, further comprising communicating with the radio frequency identification device using a spread spectrum signal in the range of 200MHz to 10GHz.

56. The method of claim 54, wherein the backing is in a roll, reel, tape, fan fold, or sheet format.

57. The method of claim 54, wherein the dispenser comprises a shield to substantially prevent the plurality of flexible radio frequency identification devices from receiving a signal.

58. The method of claim 54, further comprising printing information on the flexible radio frequency identification device.

59. The method of claim 58, wherein the information includes a bar code.

60. The method of claim 54, further comprising affixing the flexible radio frequency identification device to an article.

61. The method of claim 60, further comprising printing information on the flexible radio frequency identification device about the article

62. The method of claim 60, wherein the article is airport baggage.

63. The method of claim 54, further comprising testing the radio frequency identification device in an individually shielded cavity formed by placing grounded plates on both sides of the radio frequency identification device.